To Look For...

Cumulonimbus Clouds

 Towering or growing cumulus clouds can become a thunderstorm in just a few hours or less—expect lightning, strong winds and moderate to heavy precipitation.



- Can be alone or in groups.
- Rotation in the main updraft indicates a supercell capable of producing a tornado.
- ft ole of
- If on a ridge or high in the mountains, storm may be growing beneath you.

Weather Folklore, Tips & Tricks

- Red sky at night, sailors delight...red sky in morning sailors take warning.
- Clear sky and calm winds = cool night
- Haloes around the sun or moon indicate rain or snow real soon.



- Crickets are accurate
 thermometers—they chirp fast when warm
 and slower when cold. By counting the
 number of cricket chirps in a 14-second
 period and adding 40, the total will equal
 the air temperature to within one degree
 75% of the time.
- Calculate the distance of a thunderstorm count the number of seconds between
 lightning flash and thunder crash, divide by
 5 and that is how many miles the storm is
 away from you.

NWS Mission

The National Weather Service provides weather, water, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas for the protection of life and property and the enhancement of the national economy.



For more information, visit our website:

www.weather.gov/greatfalls

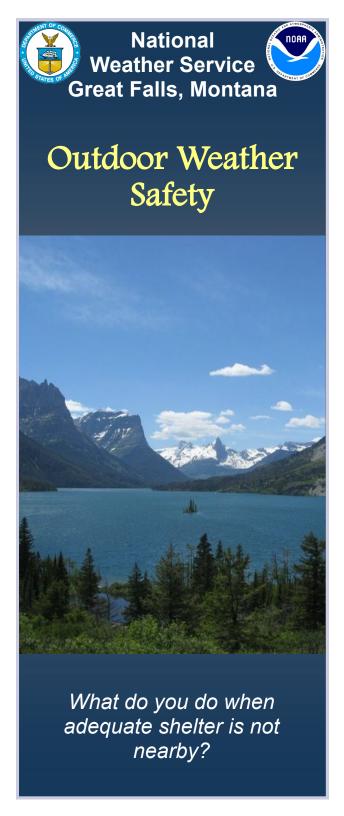
For additional safety information, visit:

www.weather.gov/safety.php

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Know What

<u>High Clouds</u> — Cirrus, Cirrostratus, Cirrocumulus

 Thickening cirrus or cirrostratus can indicate approaching precipitation within 24-48 hours.







Middle Clouds — Altocumulus Altostratus, Wave Clouds

 Thickening altocumulus can indicate approaching precipitation within 6-12 hours, thickening altostratus can indicate approaching precipitation within 1-12 hours.







<u>Low Clouds</u> — Cumulus, Stratus, Stratocumulus, Nimbostratus

- If cumulus are small and flat, calm and quiet weather for next 12 hours; if growing or towering, stormy weather on the way in a few hours.
- Stratocumulus indicate cooler air arriving and they can produce light precipitation.
- Stratus/nimbostratus typically low, layered and dark, can produce continuous light to moderate precipitation.







Plan...Prepare and Be Aware

General Outdoor Safety Tips

- Notify family and friends outside of your party where you are going and when you plan to leave/return.
- Travel with a companion.
- Always carry an emergency first-aid kit and the 'essentials'.
- Wear appropriate clothing for the trail conditions and season.
- Check weather reports before you go, know the weather patterns of the area and be aware that conditions can change rapidly, especially in mountainous areas.
- Carry a battery-powered NOAA Weather Radio.

Tornado Safety

- Watch for these signs:
 - Dark or greenish colored sky
 - Large, dark hanging and rotating wall cloud



Photo Credit: Roger Hill

- Large hail
- Loud roar that sounds like a freight train
- Avoid areas with many trees and vehicles.
- Lie down flat in a gully, ditch or low spot on the ground and know that you will be exposed to flying debris, hail, lightning and extreme wind.
- Protect your head with an object (such as a backpack) or with your arms.

Thunderstorm Safety

In mountainous areas, thunderstorms
 typically develop in the early afternoon, so

plan to hike early in the day and be off the mountain by noon.



Keep an eye

an eye Photo Credit: Megan VanDenHeuvel

- to the sky and watch for towering cumulus clouds and/or a darkening sky this is a first indication that a thunderstorm is developing or approaching.
- If camping, hiking, etc., far from a safe vehicle or building, avoid open fields, the top of a hill or a ridge top. If in an exposed area, squat low to the ground – place hands on your knees with your head between them. Do not lie flat on the ground. Best bet: Go into a forest and stay near a lower strand of trees.
- Stay away from tall, isolated trees or other tall objects.
- Stay out of shallow caves and overhangs.
- Stay away from water, wet items and metal objects.
- If you are camping in an open area, set up camp in a valley, ravine or other low area that is not subject to flooding. Remember, a tent offers no protection from lightning.

Flash Flood/Flood Safety

 Flash floods can occur anytime, and thunderstorms farther upstream can cause a flash flood farther downstream.



Distant rain may be channeled into gullies, narrow canyons and ravines. Be alert for thunder or lightning in the immediate vicinity and over nearby hills.

- Avoid camping on the banks of high and fast running streams, creeks or rivers as well as in narrow and deep canyons.
- Avoid camping in a recent wildfire burn area since water will be more prone to run on top of the soil and cause debris flows.
- If you are in an area of rocky and high cliff terrain, look for high water mark signs as this may indicate a history of flooding.
- If food comes in contact with flood waters, throw it out and boil drinking water before using.

Heat Safety

- Hottest time of day between 1pm and 5pm.
- Slow down, drink plenty of water and take frequent breaks.
- Try to stay in the shade when possible.
- Wear lightweight, loose-fitting and lightcolored clothing.

Winter Weather Safety

- · Dress in warm layers and stay dry.
 - Hat, scarf or knit mask, gloves or mittens, water-resistant coat and boots
- Do not leave areas of the skin exposed to the cold and avoid exertion.
- Be prepared to take emergency shelter such as a lean-to, windbreak or snow cave.
 - Pack dry clothing, a two-way radio, waterproof matches and fire starters
- Build a fire for heat and to attract attention.
- Watch for signs of cold-weather health problems such as frostbite and hypothermia.

Avalanche Safety

- If traveling in avalanche-prone areas,
 ALWAYS have a partner!
- Know the terrain you will be traveling in.
- Carry and know how to use: Avalanche beacon/transceiver, shovel, probe, slope meter.
- Look for signs of recent avalanche activity.
- Always assess the snowpack and slope before traversing and descending.

